

256351.txt  
 SEQUENCE LISTING

<110> Carter Holt Harvey Limited  
 Fletcher Challenge Forests Limited  
 Michigan Technological University  
 Podila, Gopi Krishna  
 Liu, Jun-Jun  
 Karnosky, David F

<120> Plants Having Modified Reproductive Activity

<130> 25635 MRB

<140>

<141>

<150> NZ334715

<151> 1999-03-17

<160> 17

<170> PatentIn Ver. 2.1

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<212> DNA

<213> Pinus radiata

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<300>
<301> Jun-Jun, Liu
      Podila, G K.
<302> Not applicable
<303> Direct submission
<304> -
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<306> ---
<307> 1997-09-09
<308> Genbank AF023615
<309> 1999-01-26
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cga cag gtc act ttc tgc aag cgc cga aat ggt tta tta aag aag gcg 96
Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
             20             25             30

tat gaa tta tca gtt ctt tgt gat gca gaa gtg gcc ctc atc gtc ttc 144
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
          35             40             45

tcc agc aga ggg aga ctt tat gaa ttt gcc aac cac agc gtg aag agg 192
Ser Ser Arg Gly Arg Leu Tyr Glu Phe Ala Asn His Ser Val Lys Arg
          50             55             60

acg att gag agg tac aag aag act tgc gtt gac aac aac cac gga ggg 240

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Thr Ile Glu Arg Tyr Lys Lys Thr Cys Val Asp Asn Asn His Gly Gly
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Ala Ile Ser Glu Ser Asn Ser Gln Tyr Trp Gln Gln Glu Ala Gly Lys
                        85      90      95
ctc aga caa cag att gac att ttg caa aat gca aat agg cat ttg atg 336
Leu Arg Gln Gln Ile Asp Ile Leu Gln Asn Ala Asn Arg His Leu Met
                        100      105      110
ggt gac ggg ctt aca gct ttg aac att aag gaa ctc aag caa ctt gag 384
Gly Asp Gly Leu Thr Ala Leu Asn Ile Lys Glu Leu Lys Gln Leu Glu
                        115      120      125
gtt cga ctt gaa aaa gga atc agc cga gtg cga tcc aaa aag aac gag 432
Val Arg Leu Glu Lys Gly Ile Ser Arg Val Arg Ser Lys Lys Asn Glu
                        130      135      140
atg ttg ctt gaa gag atc gac atc atg cag aga agg gaa cac ata ctt 480
Met Leu Leu Glu Glu Ile Asp Ile Met Gln Arg Glu His Ile Leu
145      150      155      160
atc cag gag aat gag att ctt cgc agc aag ata gcc gag tgt cag aat 528
Ile Gln Glu Asn Glu Ile Leu Arg Ser Lys Ile Ala Glu Cys Gln Asn
                        165      170      175
agc cac aac acg aac atg tta tca gct ccg gaa tat gat gca ctg ccc 576
Ser His Asn Thr Asn Met Leu Ser Ala Pro Glu Tyr Asp Ala Leu Pro
                        180      185      190
gca ttc gac tct cga aat ttc cta cat gca aat cta atc gat gcg gcc 624
Ala Phe Asp Ser Arg Asn Phe Leu His Ala Asn Leu Ile Asp Ala Ala
                        195      200      205
cat cac tat gca cat cag gaa caa aca acg ctt cag ctt ggc tga 669
His His Tyr Ala His Gln Glu Gln Thr Thr Leu Gln Leu Gly
                        210      215      220
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ttgaatgaga ttcagagtcg aaatattgcg aggcaagagc acaatggaag agatagctcc 789
tagtatgaat atggatttat gatattaaca tatggtttgt cagctttaa tatagctgtt 849
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<210> 4  
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 <213> Pinus radiata

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Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
                        35      40      45
Ser Ser Arg Gly Arg Leu Tyr Glu Phe Ala Asn His Ser Val Lys Arg
                        50      55      60
Thr Ile Glu Arg Tyr Lys Lys Thr Cys Val Asp Asn Asn His Gly Gly

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65          70          75          80
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Leu Arg Gln Gln Ile Asp Ile Leu Gln Asn Ala Asn Arg His Leu Met
Gly Asp Gly Leu Thr Ala Leu Asn Ile Lys Glu Leu Lys Gln Leu Glu
Val Arg Leu Glu Lys Gly Ile Ser Arg Val Arg Ser Lys Lys Asn Glu
Met Leu Leu Glu Glu Ile Asp Ile Met Gln Arg Arg Glu His Ile Leu
Ile Gln Glu Asn Glu Ile Leu Arg Ser Lys Ile Ala Glu Cys Gln Asn
Ser His Asn Thr Asn Met Leu Ser Ala Pro Glu Tyr Asp Ala Leu Pro
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210          215          220

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<210> 5
<211> 1012
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> CDS
<222> (16)..(795)
<223> Arabidopsis thaliana ribonuclease (RNS2) mRNA,
complete cds

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<300>
<301> Taylor, C B.
      Baricola, P A.
      delCardayre, S B.
      Raines, R T.
      Green, P J.
<302> RNS2: a senescence-associated RNase of Arabidopsis that
      diverged from the S-RNases before speciation
<303> Proc. Natl. Acad. Sci. U.S.A.
<304> 90
<305> 11
<306> 5118-5122
<307> 1993
<308> Genbank
<309> 1994-10-30
<313> 1 TO 1012

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tgt atc gcc gga gca ttt gcc gga gac gtc atc gaa ctc aat cga tct 99
Cys Ile Ala Gly Ala Phe Ala Gly Asp Val Ile Glu Leu Asn Arg Ser
          15          20          25

cag agg gag ttc gat tat ttc gct cta tct ctt caa tgg cct gga acc 147
Gln Arg Glu Phe Asp Tyr Phe Ala Leu Ser Leu Gln Trp Pro Gly Thr
          30          35          40

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ggc	tcc	gat	gct	cca	act	caa	ttc	aca	att	cat	ggg	tta	tgg	cct	gac	243
Gly	Ser	Asp	Ala	Pro	Thr	Gln	Phe	Thr	Ile	His	Gly	Leu	Trp	Pro	Asp	
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Tyr	Asn	Asp	Gly	Ser	Trp	Pro	Ser	Cys	Cys	Tyr	Arg	Ser	Asp	Phe	Lys	
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Glu	Lys	Glu	Ile	Ser	Thr	Leu	Met	Asp	Gly	Leu	Glu	Lys	Tyr	Trp	Pro	
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agt	ctc	agt	tgt	ggt	tct	cca	tca	tca	tgc	aat	ggt	ggg	aaa	ggg	tca	387
Ser	Leu	Ser	Cys	Gly	Ser	Pro	Ser	Ser	Cys	Asn	Gly	Gly	Lys	Gly	Ser	
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Lys	His	Asn	Val	Thr	Asp	Val	Leu	Tyr	Gln	Ala	Gly	Tyr	Val	Ala	Ser	
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Asn	Ser	Glu	Lys	Tyr	Pro	Leu	Gly	Gly	Ile	Val	Thr	Ala	Ile	Gln	Asn	
		175					180					185				
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Ala	Phe	His	Ile	Thr	Pro	Glu	Val	Val	Cys	Lys	Arg	Asp	Ala	Ile	Asp	
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gaa	ata	cgt	ata	tgc	ttc	tat	aaa	gat	ttt	aag	ccc	agg	gac	tgt	gtt	675
Glu	Ile	Arg	Ile	Cys	Phe	Tyr	Lys	Asp	Phe	Lys	Pro	Arg	Asp	Cys	Val	
205					210					215					220	
ggt	tca	caa	gat	ttg	aca	tct	aga	aag	tca	tgc	ccc	aag	tac	gta	agt	723
Gly	Ser	Gln	Asp	Leu	Thr	Ser	Arg	Lys	Ser	Cys	Pro	Lys	Tyr	Val	Ser	
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Leu	Pro	Glu	Tyr	Thr	Pro	Leu	Asp	Gly	Glu	Ala	Met	Val	Leu	Lys	Met	
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 35 40 45  
 Thr Arg His Cys Cys Ser Lys Asn Ala Cys Cys Arg Gly Ser Asp Ala  
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 Pro Thr Gln Phe Thr Ile His Gly Leu Trp Pro Asp Tyr Asn Asp Gly  
 65 70 75 80  
 Ser Trp Pro Ser Cys Cys Tyr Arg Ser Asp Phe Lys Glu Lys Glu Ile  
 85 90 95  
 Ser Thr Leu Met Asp Gly Leu Glu Lys Tyr Trp Pro Ser Leu Ser Cys  
 100 105 110  
 Gly Ser Pro Ser Ser Cys Asn Gly Gly Lys Gly Ser Phe Trp Gly His  
 115 120 125  
 Glu Trp Glu Lys His Gly Thr Cys Ser Ser Pro Val Phe His Asp Glu  
 130 135 140  
 Tyr Asn Tyr Phe Leu Thr Thr Leu Asn Leu Tyr Leu Lys His Asn Val  
 145 150 155 160  
 Thr Asp Val Leu Tyr Gln Ala Gly Tyr Val Ala Ser Asn Ser Glu Lys  
 165 170 175  
 Tyr Pro Leu Gly Ile Val Thr Ala Ile Gln Asn Ala Phe His Ile  
 180 185 190  
 Thr Pro Glu Val Val Cys Lys Arg Asp Ala Ile Asp Glu Ile Arg Ile  
 195 200 205  
 Cys Phe Tyr Lys Asp Phe Lys Pro Arg Asp Cys Val Gly Ser Gln Asp  
 210 215 220  
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<220>  
 <221> modified\_base  
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 <223> n=i

<220>

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<220>  
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20

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&lt;220&gt;

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&lt;210&gt; 12

&lt;211&gt; 30

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

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&lt;400&gt; 12

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&lt;210&gt; 13

&lt;211&gt; 27

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&lt;213&gt; Artificial Sequence

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&lt;210&gt; 14

&lt;211&gt; 18

&lt;212&gt; DNA

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18

&lt;210&gt; 15

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

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256351.txt

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18

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